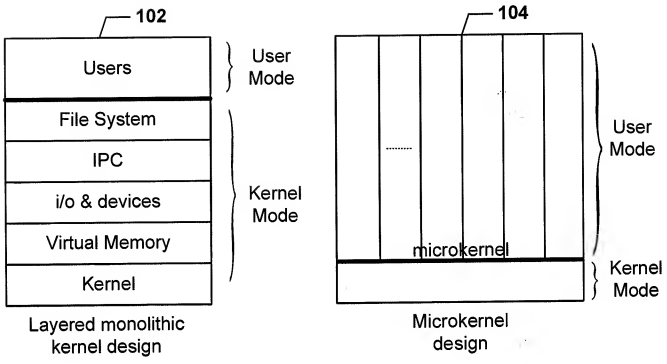
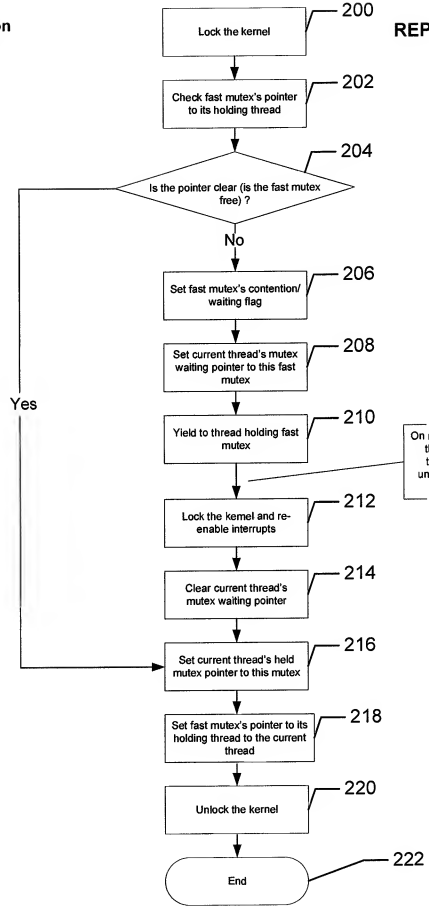

102
Users
File System
IPC
i/o & devices
Virtual Memory
Kernel
User Mode
Kernel Mode
Layered monolithic kernel design
104
microkernel
User Mode
Kernel Mode
Microkernel design

FIG 1

Waiting on a fast mutex

REPLACEMENT SHEET

FIG 2



Releasing a fast mutex

REPLACEMENT SHEET

FIG 3

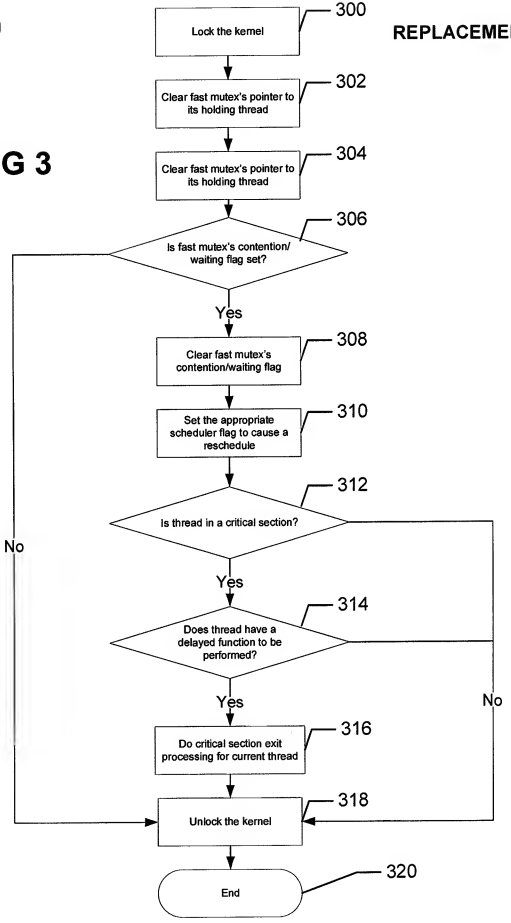
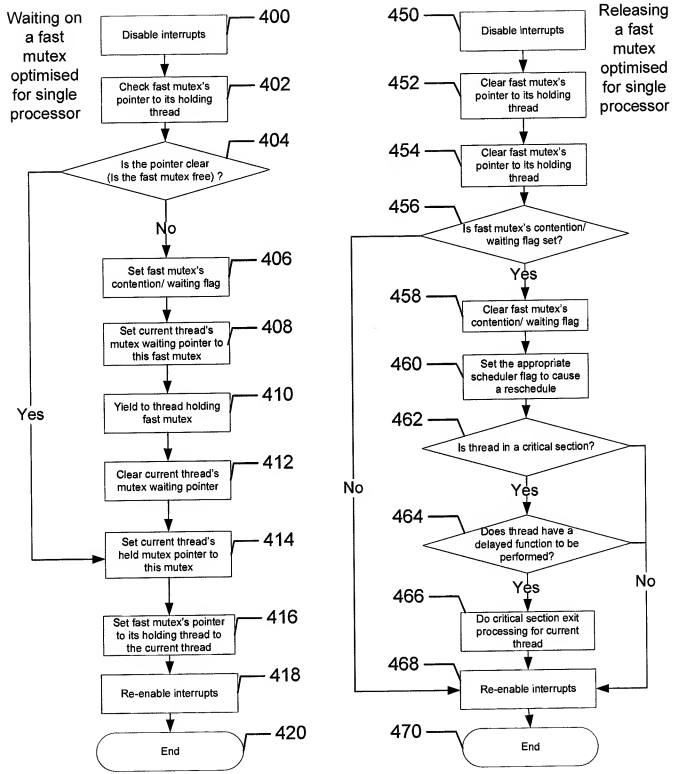


FIG 4


Waiting on a fast mutex optimised for single processor
Disable interrupts
400
Check fast mutex's pointer to its holding thread
402
Is the pointer clear (Is the fast mutex free) ?
404
No
Yes
Set fast mutex's contention/ waiting flag
406
Set current thread's mutex waiting pointer to this fast mutex
408
Yield to thread holding fast mutex
410
Clear current thread's mutex waiting pointer
412
Set current thread's held mutex pointer to this mutex
414
Set fast mutex's pointer to its holding thread to the current thread
416
Re-enable interrupts
418
End
420
Releasing a fast mutex optimised for single processor
450
Disable interrupts
452
Clear fast mutex's pointer to its holding thread
454
Clear fast mutex's pointer to its holding thread
456
Is fast mutex's contention/ waiting flag set?
No
Yes
458
Clear fast mutex's contention/ waiting flag
460
Set the appropriate scheduler flag to cause a reschedule
462
Is thread in a critical section?
No
Yes
464
Does thread have a delayed function to be performed?
Yes
No
466
Do critical section exit processing for current thread
468
Re-enable interrupts
470
End